

Attorney Docket No. HES 2002-IP-007282
Haynes and Boone Docket No. 30545.56
Customer No. 000027683

III. Remarks

A. Status of the Application

Claims 1, 2, 6-12 and 17-21 are pending herein. Claims 1 and 11 are amended. Claims 3 – 5 and 13 – 16 have been cancelled.

None of the amendments made herein is in response to the present rejection of the claims. Rather, the amendments made herein are made to enhance the Applicants' patent portfolio with claims of varying scope.

Reconsideration of this application in light of the following remarks is respectfully requested.

B. Rejections under 35 U.S.C. § 102(b)

Claims 11, 12, 14 and 20 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,228,909 to Burdick et al. ("Burdick '909"). As noted above, claim 11 has been amended, and claim 14 has been canceled. Insofar as it may be applied to the present claims, this rejection is respectfully traversed.

Burdick '909 discloses fluidized aqueous suspensions containing at least 15% by weight of hydroxyethylcellulose, hydrophobically modified cellulose ether, hydrophobically modified hydroxyethylcellulose, methylcellulose, hydroxypropylmethylcellulose and polyethylene oxide. The compositions disclosed in Burdick '909 are prepared by the addition of the polymer to a concentrated sodium formate solution containing xanthan gum as a stabilizer.

As provided in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim..." Burdick '909 fails to meet the requirements of MPEP § 2131 with respect to claims 11, 12 and 20 because Burdick '909 fails to teach or suggest each and every element of these claims.

Claim 11 is in independent form and is directed to a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about

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6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer. Such a composition is not disclosed, motivated or suggested by Burdick '909.

Rather, Burdick '909 merely discloses fluidized aqueous polymer suspensions that include at least 15% by weight of the polymer in a concentrated sodium formate solution which also contains xanthan gum. Burdick '909 does not disclose or suggest that the polymers are present in the compositions in an unhydrated state, yield viscosity upon hydration and comprise a polysaccharide selected from guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar. It appears that the Examiner is relying on the data in the table on Col. 2, lines 34-40 to maintain that the thick gel formed at lower levels of formate is indicative of the hydratable nature of the polymer. Burdick '909, however, discloses at Col. 2, lines 41-50 that water is the first ingredient of the composition rather than an additive in a subsequent dilution step and therefore Burdick '909 does not teach a gel concentrate precursor in which the polymer being suspended is in an unhydrated hydratable state. The mere fact that a suspension can further hydrate is not evidence that the polymer existed in an unhydrated, inhibited state and is not evidence that further hydration to form a liquidized suspension is the result of reversing the hydration-inhibiting reaction.

Along the same lines, Burdick '909 does not disclose or suggest a composition that includes an inhibitor for inhibiting the hydration of a hydratable polymer. It appears that the Examiner is relying on the same data in Col. 2, lines 34-40 as disclosure that the formate is a hydration inhibitor, specifically noting that a thick gel formed at lower levels of formate. Applicants respectfully traverse this interpretation of Burdick '909. The data in Col. 2, lines 34-40 of Burdick '909 merely signal a progressive hydration of the composition upon successive additions of formate. Burdick '909 does not disclose that the hydration of the suspension is inhibited or by what means it is so inhibited. Contrary to what is stated in the Office action, there is no basis in Burdick '909 to infer that the formate is a hydration inhibitor. To this effect, Burdick '909 does not teach that the polymers present in the compositions are hydratable and yield viscosity upon hydration. Nor does Burdick '909 provide data indicating that such hydration can be inhibited or retarded.

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In view of the foregoing, Applicants submit that Burdick '909 fails to meet the requirements of MPEP § 2131 with respect to claim 11 because Burdick '909 fails to teach every element of this claim. Accordingly, Applicants respectfully request that the rejection of claim 11 under 35 U.S.C. § 102(b) over Burdick '909 be withdrawn.

Claims 12 and 20 depend directly or indirectly from claim 11 and therefore include at least the same elements as claim 11. Accordingly, Applicants request that the rejection of claims 12 and 20 under 35 U.S.C. § 102(b) over Burdick '909 be withdrawn for at least the same reasons noted above that apply to claim 11.

Claims 11, 12, 14, 17 and 18 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,239,081 to Korzilius et al. ("Korzilius '081"). As noted above, claim 11 has been amended, and claim 14 has been canceled. Insofar as it may be applied to the present claims, this rejection is respectfully traversed.

Korzilius '081 discloses alkali metal carboxylate-containing drilling fluids which include boron compounds to decrease the corrosivity of such drilling fluids to metallic materials. The drilling fluids may also include polymers such as cellulose ethers, starch and its derivatives and biopolymers.

As provided in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim..." Korzilius '081 fails to meet the requirements of MPEP § 2131 with respect to claims 11, 12, 17 and 18 because Korzilius '081 fails to teach or suggest each and every element of these claims.

Claim 11 is in independent form and is directed to a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer.

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Such a composition is not disclosed, motivated or suggested by Korzilius '081. Rather, Korzilius '081 discloses alkali metal carboxylate-containing drilling fluids which include boron compounds to decrease the corrosivity of such drilling fluids to metallic materials and which may also include polymers such as cellulose ethers, starch and its derivatives and biopolymers. Korzilius '081 does not disclose or suggest that the polymers are present in the compositions in an unhydrated state, yield viscosity upon hydration and comprise a polysaccharide selected from guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar.

Korzilius '081 also does not disclose or suggest a composition that includes an inhibitor for inhibiting the hydration of a hydratable polymer. It appears that the Examiner is relying on the presence of borate compounds and the nature of the polymers employed to conclude that the hydratable nature of the polymer is inherent as is the ability of the boron compounds to act as a hydration inhibitor. The applicant respectfully disagrees. Korzilius '081 addresses a reaction inhibiting the breakdown of carboxylates into carboxylic acid, rather than a reaction inhibiting the hydration of the polymers in a formate solution.

In view of the foregoing, Applicants submit that Korzilius '081 fails to meet the requirements of MPEP § 2131 with respect to claim 11 because Korzilius '081 fails to teach every element of this claim. Accordingly, Applicants respectfully request that the rejection of claim 11 under 35 USC § 102(b) over Korzilius '081 be withdrawn.

Claims 12, 17 and 18 depend directly or indirectly from claim 11 and therefore include at least the same elements as claim 11. Accordingly, Applicants request that the rejection of claims 12, 17 and 18 under 35 USC § 102(b) over Korzilius '081 be withdrawn for at least the same reasons noted above that apply to claim 11.

C. Rejections Under 35 U.S.C. § 103(a)

Claims 1-4, 6-8, 11, 12, 14, 15 and 17-19

Claims 1-4, 6-8, 11, 12, 14, 15 and 17-19 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 4,336,145 to Briscoe ("Briscoe '145") in view of U.S. Patent No. 4,900,457 to Clarke-Sturman et al. ("Clarke-Sturman '457"). As noted above, claims 1 and 11 have been

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amended, and claims 3, 4, 14 and 15 have been canceled. Insofar as it may be applied to the present claims, this rejection is respectfully traversed.

It is noted that in the statement of the rejection of various claims under U.S.C. § 103(a) over Briscoe in view of Clarke-Sturman et. al. on pages 4 and 5 of the Office action, the Clarke-Sturman patent is misidentified as U.S. Patent No. 6,933,262. The Clarke-Sturman et. al. patent is U.S. Patent No. 4,900,457 and the comments that follow will be directed to this patent rather than U.S. Patent No. 6,933,262.

Claim 1 is in independent form and is directed to a method of forming a high viscosity aqueous treating fluid. The method of claim 1 includes (a) preparing a liquid gel concentrate comprised of an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution, and an inhibitor for inhibiting the hydration of the hydratable polymer; and (b) diluting the concentrate with water to hydrate the hydratable polymer. Claims 2 and 6-8 depend directly or indirectly from claim 1 and therefore include at least the same elements as claim 1.

Claim 11 is in independent form and is directed to a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution, and an inhibitor for inhibiting the hydration of the hydratable polymer. Claims 12 and 17-19 depend directly or indirectly from claim 11, and therefore include at least the same elements as claim 11.

Briscoe '145 discloses a liquid gel concentrate that includes water, a hydratable polymer or mixture of polymers which yield viscosity upon hydration and an inhibitor which has the property of reversibly reacting with the hydratable polymer or polymers in a manner whereby the

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rate of hydration of the polymer is retarded. Briscoe '145, however, does not disclose or suggest a method of forming a high viscosity aqueous treating fluid or a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar and being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer.

Clarke-Sturman '457 discloses aqueous polysaccharide compositions that include 0.03 to 5% w/v of a water-soluble polysaccharide, 5 to 80% w/v of at least one salt of at least one mono- or divalent cation, wherein at least 0.05% w/v, based on the composition, of the at least one salt is formate, the balance of the at least one salt, if any, being at least one halide. Clarke-Sturman '457, however, does not disclose or suggest a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, and being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer.

To sustain the present rejection of claims 1, 2, 6-8, 11, 12 and 17-19 under 35 U.S.C. § 103(a), a prima facie case of obviousness must be established. MPEP § 2142 provides that a prima facie case of obviousness requires three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. In the present case, none of the criteria set forth in MPEP § 2142 have been satisfied with respect to independent claims 1 or 11 or claims 2, 6-8, 11, 12 and 17-19 which depend therefrom.

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1. *There is no suggestion or motivation to modify the references or to combine reference teachings.*

As discussed above, Briscoe '145 discloses a liquid gel concentrate that includes water, a hydratable polymer or mixture of polymers which yield viscosity upon hydration and an inhibitor which has the property of reversibly reacting with the hydratable polymer or polymers in a manner whereby the rate of hydration of the polymer is retarded.

Also, as discussed above, Clarke-Sturman '457 discloses aqueous polysaccharide compositions that include 0.03 to 5% w/v of a water-soluble polysaccharide, 5 to 80% w/v of at least one salt of at least one mono- or divalent cation, wherein at least 0.05% w/v, based on the composition, of the at least one salt is formate, the balance of the at least one salt, if any, being at least one halide.

There is no suggestion or motivation to combine the disclosures of Briscoe '145 and Clarke-Sturman '457. In this regard it is noted that MPEP § 2143.01 provides that:

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (emphasis in original)."

Briscoe '145 discloses methods and compositions for achieving high viscosity aqueous well treating fluids utilized in treatments to increase the recovery of hydrocarbons from subterranean formations, whereas Clarke-Sturman '457 discloses aqueous polysaccharide compositions that include 0.03 to 5% w/v of a water-soluble polysaccharide, 5 to 80% w/v of at least one salt of at least one mono- or divalent cation, wherein at least 0.05% w/v, based on the composition, of the at least one salt is formate, the balance of the at least one salt, if any, being at least one halide.

Applicants specifically disagree with the Examiner's position that one of ordinary skill in the art would be motivated to combine a formate solution according to the Clarke-Sturman '457 teaching that certain types of formate salts were found to enhance the thermal stability of aqueous polysaccharide compositions with the Briscoe '145 teaching of a liquid gel concentrate. Specifically, it would not be obvious to use the formate salts of Clarke-Sturman '457 in the compositions of Briscoe '145 because the problems Briscoe '145 and Clarke-Sturman '457 specifically address are not sufficiently similar so as to provide motivation to combine the

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teachings. In particular, Clarke-Sturman '457 addresses the problem of chemical degradation of a fluid suspension due to increased heat in subterranean environments while Briscoe '145 addresses the problem of suspension and loading loss of a gel concentrate due to settling in storage. Therefore, those of ordinary skill in the art would not be motivated to combine the compositions of Clarke-Sturman '457 and Briscoe '145.

2. *There is no reasonable expectation of success.*

Compositions for achieving thermal stability as disclosed in Clarke-Sturman '457 and compositions for achieving selective hydration of suspended polymers as disclosed in Briscoe '145 are quite specialized and are quite distinct. As such, compositions for achieving thermal stability in a subterranean environment are not necessarily suitable for use in compositions for achieving increased polymer loading for efficient storage and mixing at normal temperatures. Conversely, compositions for achieving increased polymer loading are not necessarily suitable for use in compositions for achieving thermal stability. Accordingly, one of ordinary skill in the art would not expect success from a combination of the disclosures of Briscoe '145 and Clarke-Sturman '457.

3. *The prior art references do not teach or suggest all the claim limitations.*

As discussed above, there is no motivation or suggestion for combining the disclosures of Briscoe '145 and Clarke-Sturman '457. Neither Briscoe '145 nor Clarke-Sturman '457, alone or in combination, discloses, motivates or suggests each and every element of claims 1, 2, 6-8, 11, 12 and 17-19.

There is still another compelling, and mutually exclusive, reason why Briscoe '145 and Clarke-Sturman '457 cannot be combined and applied to reject the claims under 35 U.S.C. § 103(a). Even if a motivation or suggestion could be found for combining the disclosures of Briscoe '145 and Clarke-Sturman '457, the resulting combination would not disclose, motivate or suggest each and every element of claims 1, 2, 6-8, 11, 12 and 17-19. Specifically, for example, the combination does not teach or suggest a polymer loading of 100-6000 lbs /100 gallons.

In view of the foregoing, Applicants submit that Briscoe '145 and Clarke-Sturman '457, either alone or in combination, fail to satisfy each of the three requirements of a prima facie case

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of obviousness. Failure to satisfy even one of the requirements negates the prima facie case. Accordingly, Applicants submit that the rejection of claims 1, 2, 6-8, 11, 12 and 17-19 under 35 U.S.C. § 103(a) over Briscoe '145 in view of Clarke-Sturman '457 is improper and should be withdrawn.

Claims 9, 10, 20, and 21

Claims 9, 10, 20, and 21 stand rejected under 35 U.S.C. § 103(a) over Briscoe '145 in view of Clarke-Sturman '457, and further in view of Burdick '909, U.S. Patent No. 4,963,668 to Allen et al. ("Allen '668"), and U.S. Patent No. 4,342,866 to Kang et al. ("Kang '866"). As noted above, claims 1 and 11 have been amended. Insofar as it may be applied to the present claims, this rejection is respectfully traversed

Claims 9 and 10 depend directly or indirectly from claim 1 and therefore include at least the same elements as claim 1. Namely, claims 9 and 10 are directed to a method of forming a high viscosity aqueous treating fluid, including (a) preparing a liquid gel concentrate comprised of an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer; and (b) diluting the concentrate with water to hydrate the hydratable polymer. Claim 9 further requires the liquid gel concentrate to include at least one suspending agent, and claim 10 requires the suspending agent to be selected from succinoglucan biopolymer and welan gum, for suspending the hydratable polymer in the liquid gel concentrate.

Claims 20 and 21 depend directly or indirectly from claim 11 and therefore include at least the same elements as claim 11. Namely, claims 20 and 21 are directed to a liquid gel concentrate composition that includes an aqueous formate solution, at least one unhydrated hydratable polymer which yields viscosity upon hydration, the unhydrated hydratable polymer comprising a polysaccharide selected from the group consisting of guar gum, hydroxypropyl guar, depolymerized hydroxypropyl guar, carboxymethyl guar and carboxymethylhydroxypropyl

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guar, the unhydrated hydratable polymer being present in the concentrate in an amount of from about 100 to about 6000 lbs/1000 gals. of the aqueous formate solution and an inhibitor for inhibiting the hydration of the hydratable polymer. Claim 20 further requires the liquid gel concentrate to include a suspending agent and claim 21 requires the suspending agent to be selected from succinoglucan biopolymer and welan gum for suspending the hydratable polymer in the liquid gel concentrate.

As noted above with respect to the rejection of claims 1, 2, 6-8, 11, 12 and 17-19 under 35 U.S.C. § 103(a), there is no motivation or suggestion for combining the disclosures of Briscoe '145 and Clarke-Sturman '457. Neither Briscoe '145 nor Clarke-Sturman '457, alone or in combination, can establish a prima facie case of obviousness with respect to claims 1 and 11. As noted in the Office action at page 5, lines 15-16, Briscoe '145 and Clarke-Sturman '457 fail to teach the addition of a suspending agent found in claims 9, 10, 20, and 21. Burdick '909, Allen '668, and Kang '866 cannot be properly combined with Briscoe '145 and Clarke-Sturman '457 so as to provide the subject matter of claims 9, 10, 20 and 21 that is missing from Briscoe '145 and Clarke-Sturman '457.

Burdick '909 discloses fluidized aqueous suspensions containing at least 15% by weight of hydroxyethylcellulose, hydrophobically modified cellulose ether, hydrophobically modified hydroxyethylcellulose, methylcellulose, hydroxypropylmethylcellulose and polyethylene oxide. The compositions disclosed in Burdick '909 are prepared by the addition of the polymer to a concentrated sodium formate solution containing xanthan gum as a stabilizer.

Allen '668 discloses a process for preparation of a low viscosity welan gum having a 5% by weight aqueous solution viscosity of 100 cP to control water loss from cement slurries. Allen '668 does not disclose the use of welan gum in aqueous brines.

Kang '866 discloses a process for preparation of a heteropolysaccharide used as a thickening, suspending and stabilizing agent in aqueous systems. Kang '866 does not disclose the use of welan gum in aqueous brines.

To sustain the present rejection of claims 9, 10, 20 and 21 under 35 USC § 103(a), a prima facie case of obviousness must be established. MPEP § 2142 provides that a prima facie case of obviousness requires three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

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ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. In the present case, none of the criteria set forth in MPEP § 2142 have been satisfied with respect to claims 9, 10, 20 and 21.

1. *There is no suggestion or motivation to modify the references or to combine reference teachings.*

There is no suggestion or motivation to combine the disclosures of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866. As discussed above, methods and compositions for achieving stabilization properties in varying mediums are quite diverse and specialized, even if all are water based systems. In view of the aqueous suspensions found in Burdick '909, the aqueous cement slurries found in Allen '668 and the aqueous systems found in Kang '866, one of ordinary skill in the art would not be motivated to apply the methods or ingredients of one medium to another medium merely because they are both water based. Accordingly, the methods and compositions disclosed by Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 are designed to achieve specialized, and distinct, purposes. Consequently, those of ordinary skill in the art would not be motivated to combine the compositions of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866.

As noted by the Court of Appeals for the Federal Circuit in ACS Hosp. Systems, Inc. v. Montefiore Hosp., 221 USPQ 929, 933 (Fed. Cir. 1984):

“Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so.” (emphasis added).

In this regard, the case law is clear that the record must include direct evidence that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. A rejection cannot be predicated on the mere identification of individual components of claimed limitations absent some teaching or suggestion supporting the combination. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination

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in the manner claimed. Ecolochem Inc. v. Southern California Edison, 56 USPQ2d 1065, 1076 (Fed. Cir. 2000).

Here, no such evidence has been presented and made of record. There is nothing in the disclosures of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 that would lead one of ordinary skill in the art to select the elements of claims 9, 10, 20 and 21, without using the present specification as a template. To provide motivation to combine Burdick '909 with Briscoe '145 and Clarke-Sturman '457, the Examiner relies on Burdick '909, col. 2, lines 53-55 as teaching the addition of suspending agents in the form of xanthan gum to prevent restirring of the suspension. Burdick '909, however, does not provide any indication that welan gum would perform in the same manner as the xanthan gum used in Burdick '909, and therefore, Burdick '909 does not provide any motivation for the combination of Allen '668 or Kang '866 with Briscoe '145 and Clarke-Sturman '457. Indeed, Burdick '909, col. 2, lines 57-58 discloses that "xanthan gum was the most satisfactory agent" for purposes of a suspension stabilizer, and therefore teaches away from incorporating a different gum such as the welan gum disclosed in Allen '668 and Kang '866.

It appears that the Examiner is relying on the disclosure in Allen '668, at col. 3, lines 4-6, that "the gum disclosed in Kang '866 is welan gum and is an excellent suspending agent in aqueous brines" as motivation to combine Kang '866 with Briscoe '145 and Clarke-Sturman '457. However, since Allen '668 addresses welan gum's suspension qualities in cement slurries rather than aqueous brines and Kang '866 never addresses welan gum's suspension qualities in aqueous brines, the motivation the Examiner points to is respectfully traversed.

In the present case, it is apparent from a reading of Burdick '909, Allen '668, and Kang '866 that none contemplated the loading capabilities of the polymers in view of the suspension qualities, and thus, the application of welan gum into the present application is not obvious, but, rather would require additional experimentation to observe appropriate suitability. Thus, this is a classic example of a solution to a problem being obvious only after recognition of the problem by the applicant and is part of the "subject matter as a whole" mentioned by 35 U.S.C. § 103(a), which must always be considered in determining the patentability of a claim.

Current case law also makes it clear that the best defense against a hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or

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motivation to combine the prior art references. For example, in In re Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999), the Federal Circuit noted that:

“[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight.”

More recently, the Federal Circuit additionally noted in In re Kahn, 78 USPQ2d (BNA) 1329, 1335 (Fed. Cir. 2006) that:

“[M]ere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole...When the Board does not explain the motivation, or the suggestion or teaching, that would have led the skilled artisan at the time of the invention to the claimed combination as a whole, we infer that the Board used hindsight to conclude that the invention was obvious.”

(Citing In re Rouffet, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998).

Accordingly, those of ordinary skill in the art would not be motivated to combine the compositions of Burdick ‘909, Allen ‘668 and Kang ‘866 with Briscoe ‘145 and Clarke-Sturman ‘457.

2. *There is no reasonable expectation of success.*

Compositions for achieving particular properties in the liquidized suspension stage and the precursor concentrate stage are specialized and are quite distinct. None of the patents cited by the Examiner focus on the aqueous suspension in the liquid gel concentrate stage. Furthermore, as discussed above, methods and compositions for achieving stabilization properties in varying mediums are quite diverse and specialized, even if all are water based systems. In view of the aqueous suspensions found in Burdick ‘909, the aqueous cement slurries found in Allen ‘668, and the aqueous systems found in Kang ‘866, one of ordinary skill in the art would not be compelled to apply the methods or ingredients of Burdick ‘909, Allen ‘668 and Kang ‘866 to Briscoe ‘145 and Clarke-Sturman ‘457 merely because they are all water based.

Accordingly, the methods and compositions disclosed by the foregoing patents are designed to achieve specialized, and distinct, purposes. As such, the compositions and the

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components thereof are not necessarily suitable for use or application in the context of the other compositions. Accordingly, one of ordinary skill in the art would not expect success from a combination of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866.

3. *The prior art references do not teach or suggest all the claim limitations.*

In view of the foregoing, Applicants respectfully submit that each of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 fail to disclose each and every element of claims 9, 10, 20 and 21, and therefore it is impossible to render the subject matter of claims 9, 10, 20 and 21 as a whole obvious based on any combination of the patents. As a result, the examiner's burden of factually supporting a *prima facie* case of obviousness clearly cannot be met with respect to claims 9, 10, 20 and 21, because a required element of a rejection under 35 U.S.C. § 103(a) has not been met.

Further, each of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 fail to suggest or motivate a modification of the respective disclosures so as to provide a fluid composition as recited in any of claims 9, 10, 20 and 21. None of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668, and Kang '866 or the current Office Action describe how a person of ordinary skill in the art could be motivated to modify the compositions described by Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 to provide a liquid gel concentrate including a suspending agent as recited in claims 9, 10, 20 and 21. Furthermore, there could be no reasonable expectation of success of providing such a liquid gel concentrate including a suspending agent from the disclosures of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 for at least the reason that there is no suggestion or motivation for modification of the disclosures of Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866, and a reasonable expectation of success for modifying them to provide a fluid composition as recited in claims 9, 10, 20 and 21 has not been provided. Accordingly, Applicants submit that Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668 and Kang '866 fail to satisfy the remaining requirements of a rejection of 9, 10, 20 and 21 under 35 U.S.C. § 103(a).

In view of the foregoing, Applicants submit that Briscoe '145, Clarke-Sturman '457, Burdick '909, Allen '668, and Kang '866 either alone or in combination, fail to satisfy each of the three requirements of a *prima facie* case of obviousness. Failure to satisfy even one of the

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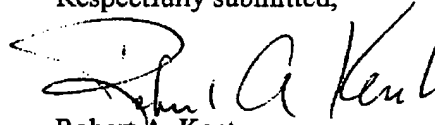
requirements negates the prima facie case. Accordingly, Applicants submit that the rejection of claims 9, 10, 20 and 21 under 35 U.S.C. § 103(a) over Briscoe '145 in view of Clarke-Sturman '457 and further in view of Burdick '909, Allen '668 and Kang '866 is improper and should be withdrawn.

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D. Conclusion

It is believed that all matters set forth in the Office action have been addressed. Favorable consideration and allowance of claims 1, 2, 6-12 and 17-21 are respectfully requested. Should the Examiner deem that an interview with Applicants' undersigned attorney would expedite consideration of the claims, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



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